# N° 409 A.D. 1901

*Date of Application, 7th Jan., 1901*

*Complete Specification Left, 6th Nov., 1901—Accepted, 14th Dec., 1901*

## PROVISIONAL SPECIFICATION.

## "Improvements in Apparatus for Wireless Telegraphy".

We, GUGLIELMO MARCONI, Electrician, and MARCONI'S WIRELESS TELEGRAPH COMPANY, LIMITED, both of 18 Finch Lane, in the City of London, do hereby declare the nature of this invention to be as follows:—

In the specifications of former Patents Nos. $12326^{98}$, $6982^{99}$, and $25186^{99}$, are described induction coils or transformers which are employed for increasing the efficiency of the receivers used for wireless telegraphy.

According to this invention the primary and secondary windings of the induction coil are joined together so as to form a single winding, the turns at the centre *acting as primary, and the turns* at and near the ends as secondary.

This coil is divided into two parts a condenser being placed between.

The outer ends of the coil are connected to the coherer or its equivalent. The elevated conductor and earth or other suitable capacity are joined to points of the coil and the battery and relay connections to each plate of the condenser. The points of the coil where the aerial conductor and earth are connected are of importance.

I have obtained good results when the length of wire of the coil between the connections has been $\frac{1}{10}$th of the total length of the coil.

It is desirable in many cases that the turns between the aerial wire and earth should be of thicker wire than that of the other turns of the coil.

Dated this 7th day of January 1901.

G. MARCONI.
MARCONI'S WIRELESS TELEGRAPH COMPANY LTD.
By HENRY W. ALLEN,
Secretary
HENRY S. SAUNDERS,
S. FLOOD PAGE.
Directors.

## COMPLETE SPECIFICATION.

## "Improvements in Apparatus for Wireless Telegraphy."

We, GUGLIELMO MARCONI, Electrician, and MARCONI'S WIRELESS TELEGRAPH COMPANY, LIMITED, both of 18 Finch Lane, in the City of London, do hereby declare the nature of this invention and in what manner the same is to be performed to be particularly described and ascertained in and by the following statement:—

In the specifications of former Patents Nos. $12326^{98}$, $6982^{99}$, and $25186^{99}$, are described induction coils or transformers which are employed for increasing the efficiency of the receivers used for wireless telegraphy.

[*Price 8d.*]

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*Improvements in Apparatus for Wireless Telegraphy.*

According to this invention the primary and secondary windings of the induction coil *a* are joined together as shown in the diagram so as to form a single winding, the turns at the centre acting as primary, and the turns at and near the ends as secondary.

This coil is divided into two parts a condenser *b* being placed between.

The outer ends of the coil are connected to the coherer *c* or its equivalent. The elevated conductor *d* and earth or other suitable capacity *e* are joined to points of the coil, and the battery and relay connections to each plate of the condenser. The points of the coil where the aerial conductor and earth are connected are of importance.

We have obtained good results when the length of wire of the coil between the connections has been $\frac{1}{10}$th of the total length of the coil.

It is desirable in many cases that the turns between the aerial wire and earth should be of thicker wire than that of the other turns of the coil.

The size of the coil *a* and number of turns in it can be greatly varied. We have obtained good results the aerial conductor *d* being 120 feet high with 60 feet of wire in each half wound in 366 turns making 120 feet in 732 turns in all the portions of the wire between its connections with *d* and *e* being No. 22 and the remainder No. 36. The condenser *b* in this case had a capacity of $\frac{1}{100}$th of a microfarad.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is;—

1. Joining together the primary and secondary windings substantially as described.
2. Joining together the primary and secondary windings and making the portion of the coil between its connections with the aerial conductor and with the earth or a capacity of thicker wire than the remainder substantially as described.
3. Apparatus for wireless telegraphy substantially as described and illustrated in the drawing.

Dated this 5th day of November 1901.

G. MARCONI.
MARCONI'S WIRELESS TELEGRAPH CO. LTD.
S. Flood Page.
Henry S. Saunders,
Directors.
Henry W. Allen,
Secretary

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MARCONI & *others'* Complete Specification.

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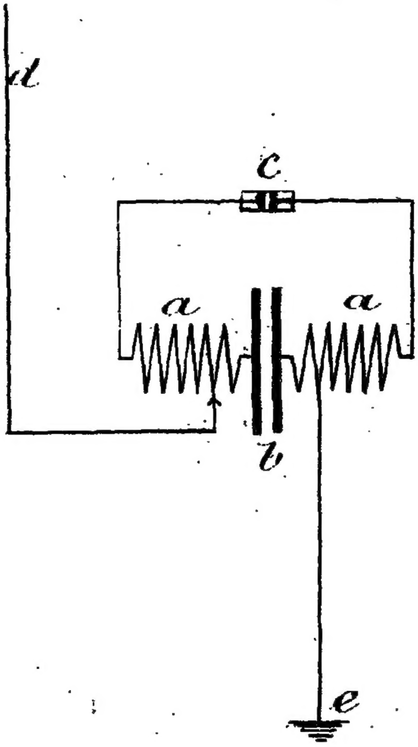

[This Drawing is a full-size reproduction of the Original.]

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